

553,995

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
4 November 2004 (04.11.2004)

PCT

(10) International Publication Number  
**WO 2004/094665 A1**

(51) International Patent Classification<sup>7</sup>: C12Q 1/68, A61K 35/60

(21) International Application Number:  
PCT/GB2004/001721

(22) International Filing Date: 21 April 2004 (21.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/464,336 22 April 2003 (22.04.2003) US

(71) Applicant (for all designated States except US): **UNIVERSITY OF SOUTHAMPTON** [GB/GB]; Highfield, Southampton, Hampshire SO17 1BJ (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **GRIMBLE, Robert Francis** [GB/GB]; University of Southampton, Highfield, Southampton, Hampshire SO17 1BJ (GB). **CALDER, Phillip Charles** [NZ/GB]; University of Southampton, Highfield, Southampton, Hampshire SO17 1BJ (GB). **HOWELL, William Martin** [GB/GB]; University of Southampton, Highfield, Southampton, Hampshire SO17 1BJ (GB).

(74) Agents: **SUTCLIFFE, Nicholas et al.**; Mewburn Ellis LLP, York House, 23 Kingsway, London, Greater London WC2B 6HP (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: INFLUENCE OF GENOTYPE ON SUSCEPTIBILITY TO TREATMENT WITH FISH OIL

(57) Abstract: The present invention relates to methods for assessing an individual's susceptibility to treatment of an inflammatory disease with a dietary supplement. The invention describes the recognition that the sensitivity of an individual to the inflammation suppressing effects of fish oil on TNF- $\alpha$  production is linked both to genetic variation encoded by, or associated with, TNF- $\alpha$ , LT- $\alpha$  and/or IL-6 single nucleotide polymorphisms and to the inherent level of production of TNF- $\alpha$  by cells.

WO 2004/094665 A1